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UNITED STATES DEPARTMENT OF AGRICULTURE,

STATES RELATIONS SERVICE.

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HOW TEACHERS OF RURAL ELEMENTARY SCHOOLS MAY
USE FARMERS' BULLETIN 660, WEEDS: HOW TO CON-
TROL THEM.

Relation to the course of study.—Suited to the field crop and garden phases of elementary agriculture, work in botany, and nature study; also suggesting suitable correlations with other school branches.

Topics for study.—Using the material as far as possible in the season suited to observation and practice, develop the following topics: (1) A general knowledge of local weeds, classification, characteristics, etc., pages 1-5, also the appendix; (2) prevention of seeding on the farm or the introduction of new seeds, pages 7-18; and (3) control and eradication of perennial weeds, pages 18-25.

Method of study.—Have the pupils bring to class a list of all the known weeds of the locality and specimens of as many of these as can be readily obtained. With reference to each weed, find where it grows, what harm it does, what use it may ever have. Check all such information on the list of 50 worst weeds (p. 27). In what different ways do weeds do harm? Classify all the local weeds as annual, biennial, or perennial. How are the seeds of these different weeds disseminated? How are weeds otherwise propagated besides seeding? Which weeds have evidently been introduced with farm seeds? Discuss methods of preventing weeds from producing seed. Why does one year's control not suffice for eradication? At what stage of growth may weeds be most easily destroyed? Describe advisable methods of tillage and state the advantages of each. Explain methods of preventing seeding in waste places, roadsides, and other places not under cultivation. Make local application in discussing each item. (See also F. B. 745.) How are weed seeds brought to the farm? How prevent the sowing of weeds with other farm seeds? (Use also F. B. 428.) What methods may reduce the number of wind-blown seeds which come from off the farm? Show need of cooperation of all local farmers.

Under the control of perennial weeds discuss the methods of clean cultivation; object of such cultivation; tools best suited; crops best suited; crop rotations for control; smother crops to keep down top growth; pasturing sheep, hogs, or goats; mowing or cutting. (See F. B. 687.) Special methods for certain weeds.

Practical exercises.—On field trips find and report on areas which are badly infested with weeds and give evidence of neglect, also

farms which are especially free from weeds. Have pupils inquire what methods are used in the district to eradicate the worst weeds. Examine at school samples of farm seeds which include some weed seeds. Have pupils identify the various weed seeds and compute percentage of impurity. Examine weedy areas in a field, counting the number of weeds and the number of plants of the crop grown in a unit area, a square yard, or a square foot. Have some pupils count the number of seeds produced by typical weeds of common varieties. (Do not carry this practice too far.)

Illustrative material.—Have the class prepare, mount, and properly classify specimens of all local weeds. Also preserve in vials the seeds of each species. (F. B. 586.) By a series of drawings show the root system and underground stems of typical weeds. Collect pictures of implements suited to weed control, also pictures of wasted land occupied by weeds where crops might be grown. Manufacturers' catalogues and farm papers will furnish such pictures.

Correlations.—Arithmetic problems may include the loss incurred in given crops of known value when the crop is reduced in the ratio of the percentage of weed seeds found in given seed samples or the number of weed plants on a given area, as suggested in practical exercises. In case two fields may be found in which the difference in yield is evidently affected by weeds, select equal areas, weigh or measure the crop, and compute the loss per acre and for the entire field. Extend this method for the whole farm and estimate also the labor cost due to weeds.

Oral or written reports on the observation of, or practice in, weed control make good language exercises. In case this work relates to the home project of the pupil the reports should all be written.

The drawing of root systems or underground stems of troublesome weeds, also distinguishing features of weeds which are sometimes confused, will fix these characteristics in the pupil's mind and at the same time provide additional illustrative material for the school collection.

For such weeds as have been introduced from other sections the pupils may by inquiry ascertain the source of the weed, how it was introduced, and the history of its spread in the district and the attempt to control the weed. These histories should also be written for a permanent record.

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Approved:

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